



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/877,774	06/08/2001	Javier A. Valenzuela	07389-00007	3929

21918 7590 03/22/2004  
DOWNS RACHLIN MARTIN PLLC  
199 MAIN STREET  
P O BOX 190  
BURLINGTON, VT 05402-0190

EXAMINER

CIRIC, LJILJANA V

ART UNIT PAPER NUMBER

3753

DATE MAILED: 03/22/2004

13

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/877,774

Applicant(s)

Valenzuela

Examiner

Ljiljana V. Cirio *LC*

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Jul 28, 2003 and Oct 30, 2003
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 33-62 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 33-62 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Jun 8, 2001 is/are a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on Oct 30, 2003 is: a) ☐ approved b) ☒ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 28, 2003 has been entered.

### ***Response to Amendment***

2. This Office action is in response to the amendments and arguments filed on July 28, 2003 with the request for continued examination as well as to the amendments and arguments subsequently filed on October 29, 2003.

3. Claims 33 through 62 remain in the application. Of these claims, claims 36 through 39 are as amended, whereas claims 41 through 62 are new.

4. The amendments filed on July 28, 2003 and on October 29, 2003 are objected to under 35 U.S.C. 132 because these introduce new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material, which is not supported by the original disclosure, is as follows: all references to impervious heat transfer layers and/or to permeable heat transfer matrices in the drawings, in the specification, and in the claims as amended.

Applicant is required to cancel the new matter in the reply to this Office Action.

### ***Response to Arguments***

5. Applicant's arguments filed on July 28, 2003 and on October 29, 2003 have been fully considered but they are not persuasive.

For example, applicant's arguments as presented in the paragraph beginning with "Regarding the remaining ones of the rejected claims" on page 15 of the arguments filed on July 28, 2003 are not persuasive because they do not relate in any way to the interpretation of the *Nguyen* reference by the examiner as cited in the rejection of the claims in the previous Office action.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., an impervious heat transfer layer defining a heat transfer interface) are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, the limitations relied upon represent new matter.

In response to applicant's arguments that the *Nguyen* and the *Chu et al.* references allegedly do not show the plurality of plates as being stacked along the longitudinal axes of the first and second manifolds, the examiner notes that these references most definitely show the plates as being stacked along a longitudinal axis as explained in greater detail below in the section related to 35 U.S.C. 102. Furthermore, applicant is reminded that claims in a pending patent must not be interpreted narrowly, but rather must be given their broadest reasonable interpretation. *In re Pearson*, 181 USPQ 641 (CCPA 1974).

Applicant's arguments filed on October 29, 2003 relating to the addition of the new terms "permeable" and "impervious" to the drawings, specification, and the claims are also not found persuasive. While at least the terms do appear in the two patents, the inventions in these patents is not identical to the one in the instant application. Also, neither of these patents is incorporated by reference in the instant application, nor does the instant application as originally-filed application correlate the use of these terms to the instant application.

Art Unit: 3743

Similarly, while applicant argues that these terms appear in the corresponding provisional application, the examiner notes that while the corresponding provisional application is listed as being the priority document for the instant application, the provisional application is also not incorporated by reference in the instant application, nor is the entire disclosure in the provisional application included in the instant application as filed. Furthermore, these terms are not defined nor used in the provisional application relative to the instant invention; instead, these terms only these terms only appear in a figure label in the provisional application. Thus, the requirements of 35 U.S.C. 112, first paragraph, are not satisfied thereby.

Thus, applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Also, applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

#### ***Oath/Declaration***

6. This application presents a claim for subject matter not originally claimed or embraced in the statement of the invention. Impervious heat transfer layers and permeable heat transfer matrices are now newly claimed, whereas the application as filed failed to include any references whatsoever to either of these. A supplemental oath or declaration is required under 37 CFR 1.67. The new oath or declaration must properly identify the application of which it is to form a part, preferably by application number and filing date in the body of the oath or declaration. See MPEP §§ 602.01 and 602.02.

#### ***Drawings***

Art Unit: 3743

7. Proposed amended drawings were received on October 29, 2003. These drawings are disapproved because they both contain new matter AND are not in the proper form (i.e., are not formal corrected drawings and are not labeled as "Replacement Sheet").

*Specification*

8. Receipt and entry of the amended abstract is hereby acknowledged.
9. The amendment filed on July 28, 2003 and on October 29, 2003 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material, which is not supported by the original disclosure, is as follows: all references to impervious heat transfer layers and permeable heat transfer matrices as well all of newly added paragraph [0015.1].

Applicant is required to cancel the new matter in the reply to this Office Action.

*Claim Rejections - 35 USC § 112*

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:
- The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
11. Claims 41 through 62 are rejected less than 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The originally filed disclosure does not mention, disclose, or otherwise support the recitation of any impervious heat transfer layers and/or permeable heat transfer matrices as being part of the instant invention.
12. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 3743

13. Claims 41 through 62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The terms "impervious" and "permeable" in claims 41 through 62 is a relative term which renders the claims indefinite. The terms "impervious" and "permeable" are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is not clear, for one, whether the term "impervious" is used to mean that the material of the heat transfer layer is impervious to all substances or only to substances of a certain, undefined molecular size. Similarly, it is not clear what degree of permeability renders a heat matrix "permeable". Thus, as used to qualify the physical properties of the heat transfer layer and the heat transfer matrix respectively, these terms render the same indeterminate and the claims indefinite.

Also, at least the limitations in subparagraph (b) of each of base claims 41, 47, 52, and 57, the limitations in subparagraph ii) of each of base claims 48 and 58 are written in run-on fashion using unclear limitations (i.e., "and *spaced from* said impervious heat transfer layer *opposite* said heat transfer interface"). These limitations also appear to have a word or words missing therefrom (i.e., "said first and second plurality of manifolds for containing the fluid;"). Thus, these claims and all claims depending therefrom are rendered indefinite with respect to the scope of protection sought.

The above is an indicative, but not necessarily an exhaustive, list of 35 U.S.C. 112, second paragraph, problems. Applicant is therefore advised to carefully review all of the claims for additional problems. Correction is required of all of the 35 U.S.C. 112, second paragraph problems, whether or not these were particularly pointed out above.

***Claim Rejections - 35 USC § 102***

Art Unit: 3743

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

15. Claims 36, 39, and 40 are rejected under 35 U.S.C. 102 (b) as being anticipated by *Nguyen*.

*Nguyen* discloses a heat exchanger and method of forming the same essentially as claimed, including: a core comprising a plurality of heat exchanger plates such as plates 14 having a stacking axis extending along the length of the core (i.e., in a direction which is perpendicular to each of the plates--see Figure 4, for example), inlet/outlet manifold plates 11, 12, and 13 which form at least one first manifold including the set of openings 11a, 12a, and 13c and at least one second manifold including the set of openings 13a, 12a, and 11a in the other flow direction; a plurality of interconnecting channels formed within the core and in fluid communication with each of the first and second manifolds; and, spacer plates such as plates 15.

The reference thus reads on the claims.

16. Alternately for claims 36, 39, and 40, claims 33 through 40 are rejected under 35 U.S.C. 102 (b) as being anticipated by *Chu et al.*

*Chu et al.* discloses a heat exchanger and method of forming the same essentially as claimed, including: a heat exchanger comprising a plurality of stacked plates forming the heat exchanger core or cold plate or heat sink 8 (see Figure 1, for example); an external heat transfer area at least corresponding to the surface area to which substrate 82 is mounted (see Figure 4, for example); a plurality of first and second manifolds 172 and 178 or 170 and 180, each of manifolds 172 and 178 having a generally triangular cross-section (see Figure 3, for example); interconnecting channels 170 and 180 or 64 formed within the core or heat sink 8 (also see Figure 3); and a microelectronic device or module 80 in thermal communication with a heat transfer surface of the heat exchanger. The stacking axis of the core is in the



Art Unit: 3743

vertical direction as shown in Figure 1 and into/out of the page (i.e., perpendicular to plate 150 as shown in Figure 3). The length of the core extends in the same direction as the stacking axis thereof, whereas the width extends in a direction which is perpendicular thereto. The longitudinal axis of each of manifolds 172 and 178 and 170 and 180 also extends the length of the core or into/out of the page relative to plate 150 as shown in Figure 3.

The reference thus reads on the claims.

17. The non-application of art against claims 41 through 62 should not be construed as an indication that the claims contain allowable subject matter but rather that the patentability of the claims cannot be determined at this time due to indefiniteness and/or other problems under 35 U.S.C. 112, first and second paragraphs.

#### *Conclusion*

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Damsohn et al., Swift et al., and Forster et al. each discloses stacked plate heat exchangers of interest.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric, whose telephone number is (703) 308-3925.

While she works a flexible schedule that varies from day to day and from week to week, Examiner Ciric may generally be reached at the Office during the work week between the hours of 10 a.m. and 6 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel, can be reached on (703) 308-1272.

The NEW central official fax phone number is (703) 872-9306.


Application/Control Number: 09/877,774

Page 9

Art Unit: 3743

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

LVC/ts

  
LJILJANA V. CIRIC  
PRIMARY EXAMINER  
ART UNIT 3753